







## Farm and Range.

## Making Hay.

There is small necessity for exposing upon California farmers that old chestnut about making hay while the sun shines. They do it uniformly. In fact, we sometimes think they do it too much; which is saying they put too much sunshine into their hay.

Instead of raising the timothy, clover and blue grass from which the country beyond the Rockies derives its prime, we supply California with alfalfa, beans, turnips, etc.

The alfalfa corresponds to clover, and in much the same way. It must be only a short time on the ground if the weather is bright.

Wheat and barley hay are many times spoiled in the curing. We say spoiled, not implying that the hay is rendered totally unfit for feeding, but that it is allowed to become so ripe or so dry that its better properties are lost. The latter is the case with the making of hay in October. It is not until the month of May that it comes on the ground until the following fall and winter. Then, of course, the life was burned out of it and it was practically worthless for feed. The thought has often occurred: If it is worth the trouble to plow the ground, sow the grain and grow it, isn't it worth the trouble to take care of it when it is growing?

There is really no more labor involved in raising and storing hay than in the right time to do the work that is done in it some weeks or months later. The difference in result is the difference between good and bad hay—between profit and loss. Of course the leaving of hay in coops until the succeeding fall or winter above alluded to, was an extreme case and attributable to a very lazy and shiftless man.

But a great majority of the better class of Southern California farmers make the mistake over-curing their wheat and barley hay. They often leave it standing until it becomes too ripe, with the mistaken notion of securing more grain with it, or they allow it to lie too long in the field after cutting. The notion of having grain win hay is a delusion. Better have the hay for hay alone, and have it of the very best. Then feed your grain separately.

As good hay as the writer ever fed, he secured by cutting in bright sunlight one day, and storing it one day in a cool, dry, airy, sunless stable directly to the barn. No danger whatever of spoiling! And it cured with a greenish tinge and was as sweet to the animals' palates as honey in the comb. They ate every last straw of it.

Wheat or barley hay, to be the very best should be cut when the grain is in the dough, dried in the field not over three or four days at the most, if the weather is good, then hauled to the stack to go through the sun for a few days. If the farmers throughout Southern California would follow this rule, they would add at least a hundred thousand dollars to the aggregate value of their crop. Let these bear in mind always that they should cure their hay with a greenish tinge on it. If they do this, the market will amply reward them for it.

## ENTOMOLOGY.

The Woolly Aphids and its Repro-

duction. W. G. Kies is author of California Notes, No. 5.

Among the most injurious to which the apple tree is subject, none is as persistent and hard to eradicate and more wide-spread than the woolly aphid, *Saissetia lutea*. The name of the insect is well known.

In England it is supposed to have come from America, and there it goes under the name of the "apple worm."

It is found in France, Germany, and wherever man is regarded as one of the most formidable pests.

The Chinese consider it a pest.

Several years ago in Chile it had destroyed whole forests of the wild apple.

It seems almost unnecessary to describe this pest, unfortunately so common, yet a few words to notice in how it does its work will be of place.

It forms the woolly aphid, which closely the green aphid, so common on roses and other plants; but its color is reddish brown, and when crushed it yields a red juice, the color of the famous name *Rhubarb* or blood-root. The insects are always surrounded by a white woolly substance, hence the name "woolly" aphid. This substance increases with astonishing rapidity, and only a few need be on a tree, to soon appear all over it. While the green aphid is a pest, the white makes itself so conspicuous above ground, on the branches, covering them with its white, yet the most annoying trouble to the grower is the roots, which in our dry climate they inhabit as freely as they do the branches, sapping the vitality of the tree to the point that the fruit becomes small and values. If allowed to go unchecked the tree gradually dies. The white aphid, however, is the woolly aphid, which is the grape vine, sucking and causing swellings and knobs all over the roots, as well as the trunk.

As far as serious as this has ever been long fought, and many are the remedies suggested for its extermination. The best, however, is to cut the tree down, and if it is discovered in time, a number of remedies may be effectively used.

After cutting, brash the branches on the infested spots, or washing them with lye, 1 pound to the gallon, or with strong solution of white oil soap, or with a solution of 10 per cent. of camphor, and a few drops of oil of camphor.

As far as possible, however, it would be best to burn the tree.

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